

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently amended) Apparatus including:

a disk drive housing defining a volume large enough to include an ATA disk drive therein, said disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

an adaptor in said housing, said adaptor including an ATA disk drive coupling element and at least two fiber channel backplane coupling elements;

a programmable switch coupled to said fiber channel backplane coupling elements to control selection of one of at least two paths by which the ATA disk drive can be coupled to a fiber channel backplane; and

a serial-to-parallel converter in a first one of the at least two paths, said serial-to-parallel converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said serial-to-parallel converter is capable of receiving a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to said ATA disk drive and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter in a second one of the at least two paths, said parallel-to-serial converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to said ATA disk drive and emitting a set of serial ATA disk drive signals.

2. (Cancelled).

3. (Original) Apparatus as in claim 1, wherein each of said fiber channel backplane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive coupling is capable of receiving input power from a selectable source.

4. (Original) Apparatus as in claim 1, wherein said switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said switch.

5. (Currently amended) Apparatus including
a disk drive housing including an ATA disk drive, said disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

an adaptor in said housing, said adaptor including an ATA disk drive coupling element coupled to said ATA disk drive, and at least two fiber channel back-plane coupling elements;

a switch coupled to said fiber channel backplane coupling elements, said switch being capable of being coupled to a switching signal; ~~and~~

a serial-to-parallel converter, said serial-to-parallel converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said serial-to-parallel converter is capable of receiving a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to said ATA disk drive and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter, said parallel-to-serial converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of receiving a set of parallel

ATA disk drive signals from a parallel ATA disk operatively coupled to said ATA disk drive and emitting a set of serial ATA disk drive signals.

6. (Cancelled).

7. (Original) Apparatus as in claim 5, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive is capable of receiving input power from a selectable source.

8. (Original) Apparatus as in claim 5, wherein said switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said switch.

9. (Currently amended) Apparatus including
a disk drive housing including an ATA disk drive, said disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

an adaptor in said housing, said adaptor including an ATA disk drive coupling element coupled to said ATA disk drive, and at least two fiber channel back-plane coupling elements; and

a first switch coupled to said fiber channel backplane coupling elements, said first switch being capable of being coupled to a switching signal;

a first path from said first switch to said ATA disk drive, said first path including a serial-to-parallel converter, wherein said serial-to-parallel converter is capable of receiving a set of serial ATA disk drive signals from a serial ATA disk

operatively coupled to the ATA disk drive and emitting a set of parallel ATA disk drive signals;

a second path from said first switch to said ATA disk drive, wherein said second path includes a parallel-to-serial converter capable of receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and emitting a set of serial ATA disk drive signals; and

a second switch coupled to said first path and said second path, said second switch being capable of selecting a connection to said ATA disk drive using either said first path or said second path.

10. (Original) Apparatus as in claim 9, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive is capable of receiving input power from a selectable source.

11. (Original) Apparatus as in claim 9, wherein said first switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said first switch.

12. (Original) Apparatus as in claim 9, wherein said second switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said second switch.

13. (Original) Apparatus as in claim 9, wherein said second switch is capable of being coupled to a second switching signal.

14. (Currently amended) Apparatus including

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a first housing including (a) a first ATA disk drive having a parallel ATA disk drive coupling element, said first housing having a form factor and electrical interface compatible with a fiber channel disk drive housing, (b) a first adaptor in said first housing, said first adaptor including an ATA disk drive coupling element coupled to said first ATA disk drive, and at least two fiber channel backplane coupling elements, and (c) a switch coupled to said fiber channel backplane coupling elements in said first housing, said switch being capable of being coupled to a switching signal;

a second housing including (a) a second ATA disk drive, said second housing having a form factor and electrical interface compatible with a fiber channel disk drive housing, (b) a second adaptor in said second housing, said second adaptor including an ATA disk drive coupling element coupled to said second ATA disk drive, and at least two fiber channel backplane coupling elements, and (c) a switch coupled to said fiber channel backplane coupling elements in said second housing, said switch being capable of being coupled to a switching signal;

a fiber channel backplane coupled to said first housing and to said second housing; and

a serial-to-parallel converter in said first housing, said serial-to-parallel converter being coupled to said parallel ATA disk drive coupling element, wherein said serial-to-parallel converter is capable of receiving a set of serial ATA disk drive signals from a serial ATA disk and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter in said first housing, said parallel-to-serial converter being coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of receiving a set of parallel ATA disk drive

signals from a parallel ATA disk and emitting a set of serial ATA disk drive signals.

15. (Previously presented) Apparatus as in claim 14, wherein said second ATA disk drive includes a serial ATA disk drive coupling element.

16. (Original) Apparatus as in claim 14, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby each of said ATA disk drives is capable of receiving input power from a selectable source.

17. (Original) Apparatus as in claim 14, wherein either said first switch or said second switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control either said first switch or said second switch.

18. (Currently amended) Apparatus including
an ATA disk drive coupling element;
at least two fiber channel backplane coupling elements;
a programmable switch coupled to said fiber channel backplane elements,
wherein an ATA disk drive is capable of being coupled to a selected one of
said at least two fiber channel backplane coupling elements in response to said
switch; [[and]]

a serial-to-parallel converter, said serial-to-parallel converter being within
said disk drive housing and coupled to said ATA disk drive coupling element,
wherein said serial-to-parallel converter is capable of receiving a set of serial

ATA disk drive signals from a serial ATA disk operatively coupled to the ATA disk drive and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter, said parallel-to-serial converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and emitting a set of serial ATA disk drive signals.

19. (Cancelled).

20. (Original) Apparatus as in claim 18, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive coupling is capable of receiving input power from a selectable source.

21. (Original) Apparatus as in claim 18, wherein said switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said switch.

22. (Currently amended) Apparatus including
an ATA disk drive coupling element capable of being coupled to an ATA disk drive, said ATA disk drive coupling element and said ATA disk drive being disposable within a disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

at least two fiber channel backplane coupling elements;

a switch coupled to said fiber channel backplane coupling elements, said switch being capable of being coupled to a switching signal; [[and]]

a serial-to-parallel converter, said serial-to-parallel converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said serial-to-parallel converter is capable ~~[[or]]~~ of receiving a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to the ATA disk drive and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter, said parallel-to-serial converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and emitting a set of serial ATA disk drive signals.

23. (Cancelled).

24. (Original) Apparatus as in claim 22, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive is capable of receiving input power from a selectable source.

25. (Original) Apparatus as in claim 22, wherein said switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said switch.

26. (Currently amended) Apparatus including
an ATA disk drive coupling element capable of being coupled to an ATA disk drive within a disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

at least two fiber channel backplane coupling elements;

a first switch coupled to said fiber channel backplane coupling elements, said first switch being capable of being coupled to a switching signal;

a first path from said first switch to said ATA disk drive coupling element, said first path including a serial-to-parallel converter, wherein said serial-to-parallel converter is capable of receiving a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to the ATA disk drive and emitting a set of parallel ATA disk drive signals;

a second path from said first switch to said ATA disk drive coupling element, wherein said second path including a parallel-to-serial converter, wherein said parallel-to-serial converter is capable of receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and emitting a set of serial ATA disk drive signals; and

a second switch coupled to said first path and said second path, said second switch being capable of selecting a connection to said ATA disk drive using either said first path or said second path.

27. (Original) Apparatus as in claim 26, wherein each of said fiber channel back-plane coupling elements includes an port capable of being coupled to a power source, whereby said ATA disk drive coupling element is capable of receiving input power from a selectable source.

28. (Original) Apparatus as in claim 26, wherein said first switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said first switch.

29. (Original) Apparatus as in claim 26, wherein said second switch includes an input port capable of receiving instructions, said instructions being interpretable by a computing device to control said second switch.

30. (Original) Apparatus as in claim 26, wherein said second switch is capable of being coupled to a second switching signal.

31. (Currently amended) An apparatus comprising:
an adaptor coupled to a disk drive housing to couple an Advanced Technology Attachment (ATA) disk drive within the disk drive housing to one of a plurality of fiber channel backplanes; [[and]]
a serial-to-parallel converter coupled to the adaptor to receive a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to the ATA disk drive and to emit a set of parallel ATA disk drive signals; and
a parallel-to-serial converter coupled to the adaptor to receive a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and to emit a set of serial ATA disk drive signals.

32. (Previously presented) The apparatus of claim 31, further comprising:
a programmable switch coupled to the adaptor to control selection of one of at least two paths by which the ATA disk drive can be coupled to one of the plurality of fiber channel backplanes.

33. (Previously presented) The apparatus of claim 32, wherein the programmable switch includes an input port to receive instructions interpretable by a computing device to control the switch.

34. (Previously presented) The apparatus of claim 31, wherein the adaptor comprises:

an ATA disk drive coupling element; and
a plurality of fiber channel backplane coupling elements.

35. (Previously presented) The apparatus of claim 34, wherein each of the plurality of fiber channel backplane coupling elements comprises a port to couple to a power source, wherein the ATA disk drive coupling element is operable to receive input power from the power source.

36. (New) A method comprising:

coupling an Advanced Technology Attachment (ATA) disk drive within a disk drive housing via an adaptor to one of a plurality of fiber channel backplanes; and

adapting the ATA disk drive to operate on a serial ATA disk and a parallel ATA disk by

coupling a serial-to-parallel converter to the adaptor to receive a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to the ATA disk drive and to emit a set of parallel ATA disk drive signals, and

coupling a parallel-to-serial converter to the adaptor to receive a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to the ATA disk drive and to emit a set of serial ATA disk drive signals.

37. (New) The method of claim 36, further comprising:

switching between the serial-to-parallel converter and the parallel-to-serial converter in response to a signal.